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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,388	09/11/2003	Kyung Chan Park	1740-000057/US	3783
30593	7590	12/21/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			RIVERO, MINERVA	
			ART UNIT	PAPER NUMBER
			2627	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/21/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/659,388	PARK, KYUNG CHAN
	Examiner Minerva Rivero	Art Unit 2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 September 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are; a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

1. In the Remarks filed 9/5/06, Applicants amended claims 1, 3, 7, 11, 13, and 16.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karakawa *et al.* (US 2002/0054555), hereinafter Karakawa, in view of Yamada (US 5,737,284).

4. Regarding claim 1, Karakawa discloses a high-density read-only optical disc including a data area, wherein either one of the mark or the space is recorded with a minimum pit length at least as small as 2T ([0074]).

However, Karakawa does not explicitly disclose but Yamada does disclose a Lead-In area, and a Lead-Out area, comprising: the Lead-In area including a specific

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area having a straight pit-shaped line created by repeated marks and spaces (Col. 6, Lines 15-18).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to supplement the teachings of Karakawa and have a lead-in and a lead-out area, as disclosed by Yamada, in order to index a disk's contents.

5. Regarding claim 2, Karakawa does not explicitly disclose but Yamada does disclose the disc as set forth in claim 1, wherein the specific area contains principal information of the high-density read-only optical disc (TOC (table of contents) data in lead-in area, Col. 6, Lines 34-35).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to supplement the teachings of Karakawa and have the specific area contain principal information of the high-density read-only optical disc, as disclosed by Yamada, in order to index the disk's contents.

6. Regarding claim 3, Karakawa does not explicitly disclose but Yamada discloses the disc as set forth in claim 1, wherein the specific area is an area that would correspond in a high-density rewritable optical disc to a PIC (Permanent Information & Control data) area, for permanently storing principal disc information (TOC data, Col. 6, Lines 34-35).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to supplement the teachings of Karakawa and have the specific

area is an area that would correspond in a high-density rewritable optical disc to a PIC (Permanent Information & Control data) area, for permanently storing principal disc information, as disclosed by Yamada, in order to index the disk's contents.

7. Regarding claim 4, Karakawa discloses the high-density read-only optical disc is a BD-ROM (Blu-ray Disc ROM), and the high-density rewritable optical disc is a BD-RE (Blu-ray Disc Rewritable) ([0026], [0120]).

8. Regarding claim 5, Karakawa discloses the disc as set forth in claim 1, wherein the mark and the space are repeatedly recorded in a predetermined recording period with different unique pit lengths according to a data value representing the recording period (*writing clock, data modulation*, [0059]).

9. Regarding claim 6, Karakawa discloses the disc as set forth in claim 5, wherein sum of pit lengths of each pair of the mark and the space is constant, irrespective of a representative data value of the recording period (see Figs. 6 and 7).

10. Claims 7, 9, 11, 13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karakawa in view of Applicants' admitted prior art, and further in view of Kobayashi (US 20060227698).

11. Regarding claims 7, 11 and 16, Karakawa discloses a method for reproducing data stored in an optical recording medium, comprising the steps of:

- a) recording/reading data recorded in a Lead-In area in the form of pre-pits having a minimum pit length at least as small as 2T ([0074]) and
- b) reproducing data recorded in a user information area by referring to the read data ( ).

However, Karakawa does not explicitly disclose but Applicants' admitted prior art does disclose a bi-phased HFM (High Frequency Modulated) groove ([0007], see Fig. 2).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to supplement the teachings of Karakawa, and have a bi-phased HFM groove, as disclosed in Applicants' admitted prior art, in order to store permanent (PIC) information.

12. Regarding claims 9, Karakawa discloses the data recorded in the Lead-in area is read by a servo operation, and the data recorded in the user information area is read by the same servo operation as said servo operation ([0062]).

13. Regarding claim 13, Karakawa discloses an optical recording medium, comprising:

a Lead-In area in which data is recorded in the form of pre-pits having a minimum pit length at least as small as 2T ([0074]).

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However, Karakawa does not disclose but Applicants' admitted prior art does disclose the pre-pits are associated with a bi-phased HFM (High Frequency Modulated) groove (see Fig. 4 (Prior art)); and

a user information area in which data is recorded in the form of straight pre-pits (see Figs. 1B and 2, Col. 4, Lines 61-65).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to supplement the teachings of Karakawa, and have pre-pits associated with a bi-phased HFM (High Frequency Modulated) groove and have a user information area in which data is recorded in the form of straight pre-pits, as disclosed in Applicants admitted prior art, in order to enable a tracking servo operation, and have the pre-pits not formed adjacent to each other across the pregrooves.

14. Regarding claim 15, Karakawa discloses the pre-pits recorded in the Lead-In area contain predetermined marks and spaces, and either one of the mark or the space is configured with a minimum pit length ([0074]).

15. Claims 8, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karakawa in view of Applicants' admitted prior art, and further in view of Kobayashi (US 20060227698).

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16. Regarding claims 8, 12 and 14, the combined teachings of Karakawa and Applicant's admitted prior art does not disclose but Kobayashi does disclose the pre-pits are arranged in the form of a straight line (see Figs. 1B and 2, Col. 4, Lines 61-65).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the pre-pits arranged in the form of a straight line, as disclosed by Kobayashi, in order to have the pre-pits not formed adjacent to each other across the pregrooves.

17. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karakawa in view of Ando *et al.* (UD 6,215,746), hereinafter Ando.

18. Regarding claim 10, Karakawa does not but Ando does disclose the servo operation is a DPD (Differential Phase Detection) method (Col. 29, Lines 12-15).

Therefore it would have been obvious to one ordinarily skilled in the art at the time of the invention to supplement the teachings of Karakawa and have the servo operation be a DPD (Differential Phase Detection) method, as disclosed by Ando, in order to detect a track error.

***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schell *et al.* (US 6,243,336) disclose an optical disc system having a servo motor and servo error detection assembly.

Horie *et al.* (US 5,862,123) disclose an optical phase-change disc.

Horimai *et al.* (US 6,128,272) disclose a high-density recording medium.

Gotoh *et al.* (US 6,125,181) disclose a recording method wherein a piracy prevention barcode is encrypted in the disk's management area.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minerva Rivero whose telephone number is (571) 272-7626. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR 11/18/06

WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER